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# Book reviews

**Handbook of Nutraceuticals and Functional Foods, Robert E.C. Wildman (Ed.), Second Edition, 2007 CRC Press, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487-2742, Price: US $149.95, Hard Cover, 541 pages, ISBN 0-8493-6409-4, Website: www.crcpress.co.uk or www.taylorandfrancisgroup.co.uk**

Functional foods can be defined as foods and food components that provide a health benefit beyond basic nutrition. This new edition of the Handbook of Nutraceutical and Functional Foods covers more than 200 nutraceutical compounds and presents a recent and comprehensive review of the growing field of nutritional science.

The book comprises 28 chapters contributed by international experts. It is very neatly presented and contains some useful tables and numerous figures illustrating chemical structures and metabolic pathways. The first chapter provides a general overview of the history of research on nutraceuticals and functional foods and serves as an introduction to the topic as a whole. Other chapters in the book cover the major topics related to foods that have nutritional benefits for improving health and reviews information on chemical properties, biochemical activity, dietary sources, and findings for the compounds discussed. Some of the foodstuffs reviewed include garlic, grape wine, tea, omega-3 fish oils, pepper fruits, olive oil and coffee. There is substantial information on compounds such as isoflavones, lycopene, polyphenols, dietary fibre, omega-3 fatty acids, conjugated linoleic acids, tocopherols and coenzyme Q-10, and the role of probiotics and prebiotics are also discussed. Various medical conditions and ailments are dealt with including several types of cancer, atherosclerosis and coronary heart disease, osteoarthritis, rheumatoid arthritis, osteoporosis, diabetes, depression, inflammation, obesity and non-alcoholic steatohepatitis. Other topics such as the shelf life of nutraceuticals and marketing and regulatory issues are also considered, and attention is given to policies dealing with the alleviation of obesity.

Revised and updated from the first edition published in 2001, new topics include the use of exopolysaccharides from lactic acid bacteria, nutraceuticals to be used in the adjunctive treatment of depression, and protein as a functional ingredient for weight loss. Additional new chapters review recent studies on nutraceuticals and inflammation in athletes, oxidative stress and antioxidant requirements in athletes, and nutrition and lifestyle interventions for osteoarthritis management. Each chapter in the book carefully examines the relevant scientific literature in a logical manner, and presents scientific backing for recommendations on "what to eat" and the health benefits of certain foods. Information and data is provided that would be of value to food scientists, nutritionists, students and researchers in the field. The extensive reference lists at the end of each chapter also serve as a valuable reference source.

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**Genetically Engineered Crops, Interim Policies, Uncertain Legislation, Iain E.P. Taylor (Ed.), 2007, Haworth Food and Agricultural Products Press, New York, London, Oxford an imprint of Haworth Press Inc, 10 Alice Street Binghamton, NY 13904-1580, $59.95 hard cover, ISBN 978-1-56022-988-9, $29.95 soft cover, ISBN 978-1-56022-989-6, E-mail: orders@HaworthPress.com, Web: www.HaworthPress.com**

Prior to the implementation of governmental regulations for genetic engineering, scientists who actively developed the new molecular tools which lead to the production of genetically modified organisms, had established voluntary guidelines for governing molecular biology. Letters by prominent scientists calling for a moratorium, even on their own laboratory experiments, stated that their respective governments have to regulate this new field before the new technology becomes part of daily practice. Scientists gathered in Asilomar in the mid-seventies and signed a letter, published in Science, on the major objectives of the regulatory rules for biotechnology. The first such guideline released by the National Institute of Health was very strict. The document was followed by other regulations in different countries, including a Recombinant DNA safety consideration, compiled by OECD member state experts in 1986. In the European Union directives were issued in 1990 on the release and use of genetically modified organisms. Almost all international organizations included in their portfolios genetically modified organisms as an important issue, realizing their potential economic, health and environmental benefits. Recently the Convention on Biological Diversity issued the Cartagena protocol, a legally binding document on the transboundary movement of living modified organisms. All of the above mentioned activities were

initiated by the scientific community. However, due to its economical, environmental and health importance, government employees, science administrators and lawyers took control of regulatory issues and scientists had to take a back seat. Different anti-globalist organizations, non-governmental organizations, and "green" movements are outspoken opponents of biotechnology. In addition, the tabloids often express extreme views on biotechnology, especially on "green" biotechnology. This resulted on a moratorium being placed in some countries for genetically modified crop production. The major driving force behind this narrow-minded activity is fueled by hysteria in the media. This is why this particular book is excellent. It is edited by Iain Taylor, who selected the best contributors for each Chapter and covers all the controversial aspects with regard to regulation and policy. Starting with the birth of biotechnology it deals with the controversy concerning terminology and novelty. It covers transgenic crops by putting into context their function in agro-ecosystems, including potential risks associated with their introduction into the environment. One of the Chapters is devoted to human health implications surrounding genetically engineered foods while other Chapters include future research agendas. The second part of the book deals with precautionary measures and covers concepts which have been adopted in the Cartagena protocol. These were later arbitrarily changed to a precautionary principle in recent EU directives. This lead to difficulty in harmonizing the different regulations internationally. The following Chapters summarize both the North American regulations and the European Union policy on biotechnology. From these the reader can identify the main philosophical differences between the two regulatory systems. The following two Chapters cover South African and Brazilian regulatory procedures and provides good examples covering regulatory regimes in developed countries. However, they omit an overview on how the Asian countries regulate the use of GE organisms where large scale field releases are on-going, for instance in China and India. A Chapter is devoted to a description of public involvement on decision making and the book ends with a fascinating topic about misunderstandings in science and how the public misinterpret the use of GE crops.

The book is well edited; the selection of topics underline the subtitle of the book, interim policies and confusing legislation. Both areas are highly pertinent and cover the controversies that exist on GMOs. The book is an excellent overview of the GMO controversy and I strongly recommend it to all who are interested in the introduction of the new technology. It would provide beneficial reading for journalists who are involved in writing articles on the GM controversy. In so doing they can avoid misleading the public.

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**Handbook of Seed Science and Technology, Amarjit S. Basra (Ed.), 2006, Food Products Press®, An Imprint of The Haworth Press, Inc., 10 Alice Street, Binghamton, NY 13904-1580, Price: US $94.95, Soft Cover, 795 pages, ISBN 1-56022-315-4, Website: www.haworthpress.com**

Seed science is a foundational aspect of the study of plant biology, and this book presents an integrated perspective of recent applications of seed science and technology. Covering all the major topics of seed science, it comprises 26 chapters by seed scientists from around the world and is organised into four sections: (1) seed developmental biology and biotechnology; (2) seed dormancy and germination; (3) seed ecology; and (4) seed technology.

The first section covers basic research related to seed development and provides a substantial overview of several topics. These include, for example, the molecular control of ovule development, nutritive value enhancement of seeds by genetic engineering and synthetic seed technology. In the second section, the main aspects of seed dormancy and germination are reviewed in three chapters by leaders in the field. Important basic aspects of dormancy and germination are covered, as well as hormonal interactions during dormancy release and germination and the role of photoregulation of seed germination. The third section on seed ecology provides both basic and applied information and covers a variety of relevant topics such as pollination and seed set, seed size, seed predation, and soil seed banks. Various aspects of seed technology are discussed in the fourth section of the book. This balances the fundamental aspects of seed physiology, as presented in the other section, with the more "hands-on" approach of seed technology. The information given here would be of particular interest to those involved in the seed testing and regulating industry. Topics such as seed quality testing, seed vigour assessment, seedborne pathogens, hybrid seed production and the role of seed technology in plant germplasm conservation are discussed.

Overall, the book focuses on the underlying mechanisms of seed biology and the impact of biotechnology on world hunger, malnutrition and consumer preferences. Each chapter contains a full reference list and points out likely directions for future developments. This publication contains an interesting mix of information on seed science and would be of value to researchers, teachers and students and professionals in the areas of seed biology and technology.

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